

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Canceled)

2. (Previously Canceled)

3. (Canceled)

4. (Canceled)

5. (Currently Amended) ~~The data buffer of claim 4~~ A data buffer, the data buffer comprising:

\_\_\_\_\_ an entry section, the entry section comprising a buffer entry section; and

\_\_\_\_\_ a signaling circuit coupled to the entry section for providing a signal to transfer a portion of a data cell from the entry section prior to the data cell being completely received by the entry section, the signal being provided once an amount of data received by the entry section reaches a predetermined threshold, the predetermined threshold being sufficient to ensure that reading of the data cell cannot get ahead of the writing of the data cell;

\_\_\_\_\_ the signaling circuit providing a write signal to the entry section to begin writing another data cell into the entry section prior to the data cell being completely read in the entry section, the

signal being provided based on a second predetermined threshold, the signaling circuit comprising an asynchronous signaling circuit ;

wherein the buffer entry section comprises a write element and a read element, wherein the write element and the read element each comprise an entry pointer, an item pointer and an entry counter.

6. (Original) The data buffer of claim 5 wherein the asynchronous signaling circuit comprises an add signaling portion and a remove signaling portion.

7. (Previously Amended) A data buffer, the data buffer comprising:

an entry section including a buffer entry section, the buffer entry section comprising a write element and a read element, the write element and the read element each comprising an entry pointer, an item pointer and an entry counter; and

a signaling circuit coupled to the entry section for providing a signal to transfer a portion of a data cell from the entry section prior to the data cell being completely received by the entry section, the signal circuit comprising an asynchronous signaling circuit including an add signaling portion and a remove signaling portion;

wherein the signal is provided once the amount of data received by the entry section reaches a predetermined threshold, the predetermined threshold being sufficient to ensure that reading of the data cell cannot get ahead of the writing of the data cell; and

wherein the asynchronous signaling circuit provides a write signal to the write element to begin writing another data cell into the buffer entry section prior to the data cell being completely

read from the buffer entry section wherein the signal is provided based on a second predetermined threshold.

8. (Previously Amended) A data buffer for buffering a data cell, the data buffer comprising:  
a buffer entry section including a write element and a read element, wherein the write element and the read element each comprise an entry pointer, an item pointer and an entry counter;  
and

an asynchronous signaling circuit coupled to the buffer entry section, wherein the asynchronous signaling circuit provides a first signal to the read element to transfer data from the buffer entry section prior to a data cell being completely received by the buffer entry section wherein the first signal is provided once the amount of data received by the buffer entry section reaches a predetermined threshold, the predetermined threshold being sufficient to ensure that reading of the data cell cannot get ahead of the writing of the data cell;

wherein the asynchronous signaling circuit provides a write signal to the write element to begin writing another data cell into the buffer entry section prior to the data cell being completely read from the read element and wherein the signal is provided based on a second predetermined threshold.

9. (Original) The data buffer of claim 8 wherein the asynchronous signaling circuit comprises an add signaling portion and a remove signaling portion.

10. (Previously Amended) A data buffer for buffering a data cell, the data buffer comprising:

a buffer entry section including a write element and a read element, wherein the write element and the read element each comprise an entry pointer, an item pointer and an entry counter; and

an asynchronous signaling circuit coupled to the buffer entry section, wherein the asynchronous signaling circuit provides a first signal to the read element to transfer data from the buffer entry section prior to a data cell being completely received by the buffer entry section, the asynchronous signaling circuit including an add signaling portion and a remove signaling portion wherein the first signal is provided once the amount of data received by the buffer entry section reaches a predetermined threshold, the predetermined threshold being sufficient to ensure that reading of the data cell cannot get ahead of the writing of the data cell;

wherein the asynchronous signaling circuit provides a second signal to the write element to begin writing another data cell into the buffer entry section prior to the data cell being completely read from the buffer entry section wherein the second signal is provided once the amount of data received by the buffer entry section reaches a second predetermined threshold.

11. (Previously Amended) A data buffer for buffering a data cell, the data buffer comprising:

a buffer entry section including a write element and a read element, wherein the write element and the read element each comprise an entry pointer, an entry counter and an item pointer; and

an asynchronous signaling circuit coupled to the buffer entry section, the asynchronous signaling circuit comprising an add signaling portion and a remove signaling portion, wherein the asynchronous signaling circuit provides a first signal to the read element prior to the data cell being

completely written into the buffer entry section and a second signal to the write element prior to the data cell being completely read from the buffer entry section, wherein the first signal is provided once the amount of data received by the buffer entry section reaches a predetermined threshold, the predetermined threshold being sufficient to ensure that reading of the data cell cannot get ahead of the writing of the data cell, and the second signal is provided once the amount of data read from the buffer entry section reaches a second predetermined threshold.

12. (Canceled)

13. (Canceled)

14. (Canceled)

15. (Canceled)

16. (Currently Amended) ~~The method claim 15~~ A method of transferring data in a data buffer, the method comprising the steps of:

allowing a data cell to begin being written into the data buffer;  
reading the data cell from the data buffer prior to the data cell being completely written into the data buffer, the reading step commencing reading the data cell based upon an amount of data written into the data buffer reaching a predetermined threshold, the predetermined threshold being sufficient to ensure that reading of the data cell cannot get ahead of the writing of the data

cell, the reading in step providing a write signal for a subsequent data cell based upon a second predetermined threshold being reached; and

allowing another data cell to begin being written into the data buffer prior to the data cell being completely read out of the data buffer;

wherein the data cell comprises a plurality of portions and the data buffer comprises a buffer entry section including a write element and a read element and an asynchronous signaling circuit coupled to the buffer entry section, the asynchronous signaling circuit comprising an add signaling portion and a remove signaling portion;

wherein the write element comprises a first entry pointer, a first item pointer, and a first entry counter and the read element comprises a second entry pointer, a second item pointer and a second entry counter.

17. (Currently Amended) The method of claim 16 wherein the step of allowing a data cell to begin being written into the data buffer a) further comprises:

a1) —allowing the write element to write each of the plurality of data cell portions to the buffer entry section via an access to the buffer entry section;

a2) —incrementing the first item pointer each time the buffer entry section is accessed;  
and

a3) —allowing the asynchronous signaling circuit to provide a signal to the read element once the first item pointer reaches the predetermined threshold.

18. (Currently Amended) The method of claim 17 wherein the signal of the asynchronous signaling circuit allowing step a3) comprises an add signal.

19. (Currently Amended) The method of claim 18 wherein the step a) of allowing a data cell to begin being written into the data buffer further comprises:

a4)——incrementing the second entry counter.

20. (Currently Amended) A method of transferring data in a data buffer, the method comprising the steps of:

a)——allowing a data cell to begin being written into the data buffer, the data cell including a plurality of portions, the data buffer including a buffer entry section and an asynchronous signaling circuit coupled to the buffer entry section, the buffer entry section including a write element and a read element, the asynchronous signaling circuit including an add signaling portion and a remove signaling portion, the write element including a first entry pointer, a first item pointer, and a first entry counter and the read element comprises a second entry pointer, a second item pointer and a second entry counter;

b)——reading the data cell from the data buffer prior to the data cell being completely written into the data buffer, wherein the data cell reading step b) further comprises:

b1)——allowing the read element to receive a signal from the asynchronous signaling circuit, the signal being provided once an amount of data received by the data buffer reaches a predetermined threshold, the predetermined threshold being sufficient to ensure that reading of the data cell cannot get ahead of the writing of the data cell;

b2)——allowing the read element to read each of the plurality of data cell portions from the buffer entry section via an access to the buffer entry section;

~~b3)~~—incrementing the second item pointer each time the buffer entry section is accessed; and

~~b4)~~—allowing the asynchronous signaling circuit to provide a signal to the write element once the second item pointer reaches a second predetermined threshold; and

e)—allowing another data cell to begin being written into the data buffer prior to the data cell being completely read out of the data buffer.

21. (Currently Amended) The method of claim 20 further comprising:

~~b5)~~—decrementing the first entry counter.

22. (Currently Amended) The method of claim 21 wherein the signal of the step allowing the read element to receive the signal ~~b1)~~ comprises an add signal and the signal of step ~~b4)~~ comprises a remove signal.